Tsila Hassine
Tsila.Hassine@gmail.com

Université Paris 1 Pantheon-Sorbonne
Paris, France and Shenkar College of
Engineering, Design Art, Tel Aviv, Israel

Nature(s) Morte(s), Live Data

Abstract:

The Internet of Things is hailed as the next "big thing", bound to transform the way objects are experienced. This paper proposes to examine the question this technology raises by looking at the evolution of our experience of objects throughout art history. From the Dutch Still Lives to the Surrealist Object, we see how artists articulated the paradigm shifts of their times through their representations and creations of mundane objects.

1. ART IN THE AGE OF AI

Recently, there have been several items in the news about what might be understood as the "resurrection" of Van Gogh, Rembrandt and other grand masters of painting. Several AI (Artificial Intelligence) research projects managed to create paintings "in the manner of" Rembrandt, Van Gogh etc., for example, this collaboration between Dutch advertising firm J. Walter Thompson, Microsoft Corporation and ING bank.

Wired magazine provides some details about the process through which this image was created:

> "With the help of several art experts, 346 Rembrandt paintings — digitized using 3D scans – were analyzed by a deep learning algorithm. The algorithm isolated common Rembrandt subjects to create the 'most consistent subject' — a white, middle aged man with facial hair, 'wearing black clothes with a white collar and a hat'. The subject was then composed by a software system that factored in 'geometry, composition and painting materials' before assembling into a face and pose. Brushstrokes were also modelled on those commonly used by Rembrandt." (Wired.co.uk, April 2016)

Fig. 1. *Rembrandt*. A collaboration between advertising firm J. Walter Thompson, Microsoft Corp and ING Bank, 2016.

When this research came out, some were quick to consider it as a genuine work of art, one that might drive artists out of their jobs, such as this online magazine:

> "There's already plenty of angst out there about the prospect of jobs lost to artificial intelligence, but this week, artists got a fresh reason to be concerned." (PCWorld.com, April 2016)

While PCWorld magazine might have betrayed their total disregard for artistic creation, simply for their own benefits, this type of research seems to flourish lately, and with it comes the inevitable question: what is the meaning of "artistic creation" in this day and age? Specifically, what is the meaning of the art object in the era of smart connected objects?

2. IOT: WHY AND WHAT

To understand some of the implications of connected objects, it is insightful to look at the socio-economical context which contributed to the rise of the Internet of Things (henceforth IoT). Although the discussion about the IoT has been around for a while,

somehow, the overall feeling is that the actual materialization of this hyped technology has so far yielded somewhat gimmicky products: a tweeting toaster; a connected washing machine; is this the disruptive edge we have been hearing so much about?

The answer lies, in part, in the power of the network. A sensing toaster, by itself, is not interesting per se. It becomes interesting when it participates in a network of toasters that is actually connected to a network of supermarkets, themselves part of another network, and so forth.

2.2. The current economic and social context of the IoT

The concept of networks of connected objects is not really new. As a matter of fact, we are almost there, have been for years. Most of our appliances have some sort of computer embedded in them. In a short exercise I did with students we counted about 130 embedded objects which we encounter every day. Moreover, prototypes for connected objects have been around for about 50 years. So, an interesting question is what made this moment right for the IoT to become "the third internet revolution"? The answer seems to be a convergence of several factors, which made this idea of connected objects come to life: The low cost of sensors and microprocessors; the availability of bandwidth at a low cost (we can't have so many communicating objects in each household without broad enough band); the availability of Wi-Fi (all these communicating objects can't be connected online through wires); the IPv6 protocol, which assigns a specific IP addresses to each these objects individually; the cloud technology, and big data technology to process all these data.

Yet all these factors still need one important catalyst to make this technology become a household technology: and this catalyst is the habituated user, in other words, it needs us. We are getting used to being surrounded by digital interfaces in most aspects of our lives. We constantly carry our smartphones — a portable central nervous system comprised of a myriad of applications. As for our part: we're ready.

3. FROM STILL LIFE TO LIVE DATA: THE ART HISTORICAL PATH OF THE OBJECT IN PAINTING

In what follows, I propose to examine the position of the object in the IoT era through an art historical perspective. I draw a parallel between the evolution in the position of mundane, everyday objects in art history through their pictorial representation in western painting, and the position of objects in contemporary culture as it is being transformed through the IoT.

3.1. The object in Still Life paintings

How has the representation of the object evolved through art history?

An obvious starting point would be the Still-Life genre. Still Life painting started long before the very much hyped "Still-Life" painting of the Dutch and Spanish painters of the 16th and 17th century. In his book *Looking at the overlooked*, art theoretician Norman Bryson examines paintings of mundane objects and artefacts dating back to the Roman and Greek empire. It's interesting to look at the evolution of the Still-Life genre throughout art history, because it focuses on the ordinary object, the object that takes part in everyday life.

Still-Life paintings turn their gaze to things, be they accessories of daily life or of distinction, that are otherwise excluded from the pictorial scene dedicated to "greater" historical or religious scenes. The odds and ends of still life objects are ignored in the dominant paintings because of their apparent inactivity, although they permeate human activity and are often necessary to fulfil even the most primitive needs, of human existence, as in the case of edibles.

Beyond depicting an endless list of material things from the realm of the overlooked, Still-Life is also specifically characterized by the rejection of the human presence: Bryson identifies the "exclusion of the human form and its seeming assault on the value and prestige of the human subject" (Bryson, 1990, 60) as a definitive feature of the genre. In some cases, the human form, although absent from the painting, is present through hints included in the represented objects, such as their wear and tear. An excellent example for this is Van Gogh's painting *Peasant Shoes* — where we can experience the essence of the peasant, daily toiling away in the fields, although all that is represented in the painting is a pair of shoes. might we say that the shoes encapsulate the daily data of the peasant's daily toiling away in the fields?

Fig. 2. *Peasant Shoes*. Vincent Van Gogh, 1888.

The narrative aspect in Still-Life paintings is not specific or textual but rather of a common or universally applicable experience of everyday life. If you will, Still Life focuses on the data accumulated over time and tradition. The narrative is inscribed in the data depicted in the objects and must be extracted by the user.

In very much the same manner, the IoT places the object at the focus of attention of the human viewer / user. The IoT is not about the hyper-narratives of the news or the constant human interaction of social networks and other content platforms, it's rather about the nitty-gritty tiny details of everyday life and movement such as counting steps (with fitness bands), usually overlooked by humans, for obvious reasons.

Moving forward to the 16th and 17th century, the golden age of Still-Life: Marked by the rising urbanization of European society, this era brings to light the habitats and their material goods, the blooming commerce, the rise of scientific knowledge, and so on. It is fascinating to re-encounter the representation of everyday life artefacts, only this time they take center stage, in the works of the Dutch (and Spanish) masters. In her seminal book *The Art of Describing: Dutch Art in the 17th Century*, art historian Svetlana Alpers draws a line between the technological innovations of that period — especially in optics — and the challenges of representing these optical inventions through painting. At the time, there was a genuine scientific and artistic interest in the way light reflects from quotidian objects. Glasses, textiles, cutlery, and other objects were often represented in paintings, taken out from the banal context and placed at the center of attention, to be examined and reflected upon.

In the case of IoT, we see a similar influence of technological developments on the way we experience, view, describe and think of objects. If in the 17th century new optical devices allowed for new dimensions of looking at and experiencing objects,

these days connected objects reveal to us new opportunities to look at objects. Take for the example the robotic vacuum cleaner, turned into a home surveillance device.

4. THE SURREALIST OBJECT

Skipping to early 20th century, I will focus on Surrealism, the surrealists, and the surrealist object, and how they transformed the way we think of objects. The surrealists strove to free the object from its original function, let it live a life of its own, unbound to its original, functional purpose. The object loses its original place as a mere means, it is no longer an object, yet it is not quite a subject.

Fig. 4. *Lobster Phone*. Salvador Dali (1934). Fully functional.

In his groundbreaking essays *Art and Thingness*, Sven Lutticken establishes a difference between an 'Object' and a 'Thing'. He quotes WJT Mitchell stating that "Things are no longer waiting passively for a concept, theory or sovereign subject to arrange them in ordered ranks of objecthood. 'The Thing' rears its head — a rough beast or sci-fi monster, a repressed returnee, an obdurate materiality, a stumbling block and an object lesson". This "Sci-Fi monster", this "Obdurate materiality" seems to fit

perfectly the unknown "thing" territory the IoT is throwing us into. 'Internet of Things' follows a similar logic, by differentiating between 'objects' and 'things', such that a thing represents a wider category than an object. Lutticken refers to the surrealist object as a "materialization of desire and a dematerialisation of the object" (Lutticken 2010). The resemblance is striking. Isn't the IoT a materialization of our wildest object fantasies? Isn't the IoT's promise to liberate our objects from the functional constraints of their conception?

Precisely so. For the IoT, objects originally designed and manufactured to fulfill very specific functions, accumulate other functions which might even take precedence over the original ones. An excellent example for this would be the smartphone: Out of all the times that you used your smartphone today, how many were actually for making a phone call?

5. CONCLUSION

Returning to my opening question: what is the meaning of "artistic creation" in this day and age? It seems that for art to be alive and relevant it has to address the context in which it lives and operates, and to examine the media through which it is produced. Resurrecting Rembrandt's or Van Gogh's paintings through AI will not help us face the challenges we are facing today. We artists must be very wary of the magical, luring potential of disruptive technology, and strive to understand and expose the social, political and aesthetic undercurrents which feed it on the one hand and are transformed by it, on the other.

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